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HIGH-VOLTAGE PULSE VOLTAGE GENERATOR; (U)
DEC 79 I I KALYATSKIY, V I KURETS
FTD-ID(RS)T-1972-79

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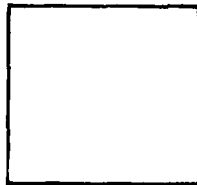


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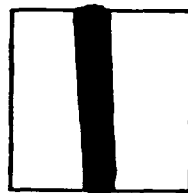
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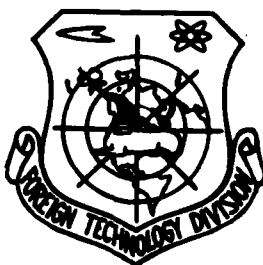
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HIGH-VOLTAGE PULSE VOLTAGE GENERATOR

by

I. I. Kalyatskiy, V. I. Kurets, and
V. I. Safronov



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EDITED TRANSLATION

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HIGH-VOLTAGE PULSE VOLTAGE GENERATOR

By: I. I. Kalyatskiy, V. I. Kurets, and
V. I. Safronov

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U. S. BOARD ON GEOGRAPHIC NAMES TRANSLITERATION SYSTEM

Block	Italic	Transliteration	Block	Italic	Transliteration
А а	<i>А а</i>	A, a	Р р	<i>Р р</i>	R, r
Б б	<i>Б б</i>	B, b	С с	<i>С с</i>	S, s
В в	<i>В в</i>	V, v	Т т	<i>Т т</i>	T, t
Г г	<i>Г г</i>	G, g	У у	<i>У у</i>	U, u
Д д	<i>Д д</i>	D, d	Ф ф	<i>Ф ф</i>	F, f
Е е	<i>Е е</i>	Ye, ye; E, e*	Х х	<i>Х х</i>	Kh, kh
Ж ж	<i>Ж ж</i>	Zh, zh	Ц ц	<i>Ц ц</i>	Ts, ts
З з	<i>З з</i>	Z, z	Ч ч	<i>Ч ч</i>	Ch, ch
И и	<i>И и</i>	I, i	Ш ш	<i>Ш ш</i>	Sh, sh
Й й	<i>Й й</i>	Y, y	Щ щ	<i>Щ щ</i>	Shch, shch
К к	<i>К к</i>	K, k	Ъ ъ	<i>Ъ ъ</i>	"
Л л	<i>Л л</i>	L, l	Ы ы	<i>Ы ы</i>	Y, y
М м	<i>М м</i>	M, m	Ь ь	<i>Ь ь</i>	'
Н н	<i>Н н</i>	N, n	Э э	<i>Э э</i>	E, e
О о	<i>О о</i>	O, o	Ю ю	<i>Ю ю</i>	Yu, yu
П п	<i>П п</i>	P, p	Я я	<i>Я я</i>	Ya, ya

*ye initially, after vowels, and after ъ, ь; e elsewhere.
When written as ë in Russian, transliterate as yë or ë.

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	sinh ⁻¹
cos	cos	ch	cosh	arc ch	cosh ⁻¹
tg	tan	th	tanh	arc th	tanh ⁻¹
ctg	cot	cth	coth	arc cth	coth ⁻¹
sec	sec	sch	sech	arc sch	sech ⁻¹
cosec	csc	csch	csch	arc csch	csch ⁻¹

Russian	English
rot	curl
lg	log

HIGH-VOLTAGE PULSE VOLTAGE GENERATOR

Authors of the invention: I. I. Kalyatskiy, V. I. Kurets, and V. I. Safronov

Well-known are pulse voltage generators which employ the Arkad'yev-Marx principle of multiplication, increased actuation frequency, the charging of the capacitor batteries of which is accomplished by way of a current-limiting inductance coil.

In the proposed device, in order to increase the threshold actuation frequency, each spark interstage discharger of the generator is of the three electrode version, the center electrode of which is connected via an inductance coil to ground.

In the illustration is shown an electrical diagram of the proposed pulse voltage generator.

The generator consists of a step-up transformer 1, rectifier assembly 2, current limiter coil 3, capacitive energy accumulators 4, separating inductance coils 5, interstage spark commutators (dischargers) 6.

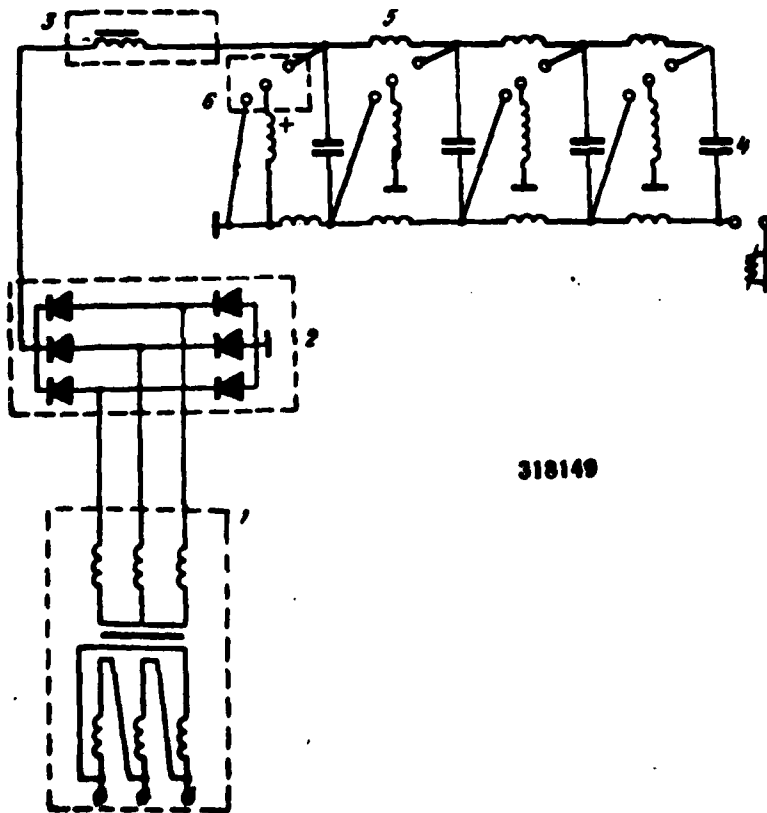
Each commutator 6 is of the three electrode version, the center electrode of which is connected via an inductance coil to ground. The use of the center electrode makes it possible to separate the discharge gap into two independent discharge gaps P_1

and P_2 .

The generator operates in the following manner. Accumulating capacitors 4 are charged by step-up transformer 1 and rectifier assembly 2 via current limiter coil 3 and separating inductance coils 5. Initially there occurs a flash-over of spark gap P_1 , the potential of the center electrode prior to flash-over of spark gap P_1 is zero, and then there occurs a flash-over of spark gap P_2 , and hereafter the device operates like an ordinary GIN [pulse voltage generator] according to the Arkad'yev-Marx principle.

The Object of the Invention

The high-voltage pulse voltage generator, assembled according to the Arkad'yev-Marx arrangement, each stage of which incorporates reactive elements and commutating three-electrode dischargers, is characterized by the fact that in order to increase the actuation frequency, the center electrode of each of the three-electrode dischargers is connected via an inductance coil to a zero point.



318149

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D008 NISC	1	NIIS	2
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